Chapter 8

Reusable Cushioned Containers

INTRODUCTION

There are several systems of containers which were specifically designed as multiuse shipping containers. The Air Force developed a system which utilizes fiberboard boxes with a polyurethane cushioning medium. The Navy version utilizes molded plastic cases with either a polyurethane or suspension system cushioning medium.

The DOD packaging activity, contractor, subcontractor, or vendor shall select the appropriate multiapplication container for those depot repairable items which fall within the parameters of size (allowing for the wrapping material and barrier), weight, and fragility. Although these integral multiapplication containers are designed for the purpose of protecting fragile items, the pack reusability, versatility, and low labor costs of insertion and removal of the item make it cost effective for many less fragile and nonrepairable items.

BOXES, SHIPPING, REUSABLE, WITH CUSHIONING (PPP-B-1672)

GENERAL

This specification was developed to provide a source of containers to be used in the system, generically called "Fast Pack." We are referring to the shorter life, fiberboard and polyurethane containers. The longer life, plastic reusable containers will be specifically addressed later in this chapter.

Fast Pack is a system which utilizes a family of standard size cushioned shipping containers. These packs are made with polyurethane foam cushioning which in most cases is bonded to the container to assure the integrity of the complete pack. Due particularly to their construction and closure features, these boxes are designed and intended to be reusable.

The Fast Packs are especially useful for return of repairable components since each size and type is suitable for shipment of a large number of different items within certain limits of size, weight, and fragility.

Material for all Fast Pack boxes shall conform to ASTM D 4727, type CF, class WR. Boxes of types I, III, and IV packs shall be a variety SW, material grade V3c. Type II packs shall be a variety SW, material grade W5c. Cushioning material for types I, III, and IV packs shall meet the requirements of MIL-PRF-26514, type I, class 2, grade C. Cushioning for type II, style D packs shall conform to type III, class 2, grade A, B, or C.

TYPES AND STYLES

The four types of packs used in the Fast Pack system are:

- X Type I, Vertical Star Pack.
- X Type II, Folding Convoluted Pack.
- X Type III, Telescoping Encapsulated Pack.
- X Type IV, Horizontal Star Pack.

There are five styles in the Fast Pack system. They are described as follows:

X Style A, Regular Slotted Container (RSC).
X Style B, Double Cover Container (DBLCC) modified so that the covers extend to one-half the depth of the tube.
X Style C, Modified DBLCC in that the joints for the covers and the single piece tube shall be butted and secured with metal fasteners and the covers shall extend to one-half the depth of the tube.
X Style D, Modified Triple Slide (TS). The modification is that the middle box shall be omitted and the sleeve shall have the overlap stitched, stapled, or glued outside the side panel.
X Style G, Modified Full Telescope Encapsulated box (FTC). It is the only type III container. It is modified in that the inside dimensions of the cover must be extended for ease in the installation and removal of the cover.

The various types and styles of Fast Packs are shown in figure 8-1.

Types I, III, and IV boxes shall be made of grade V3c material, except the two largest box sizes of Type III, which require V13c material because of dimensions. Type II boxes shall be made of grade W5c material.

SPECIAL MARKING REQUIREMENTS

For type I, type III, and type IV packs, the following markings shall be in characters of a size not less than 1/2 inch high, except that the NSN may not be less than 3/8 inch high. The markings shall be centered on the lower half of two opposite faces of the style A packs parallel to the closure seam formed by the outer flaps and style G pack covers. The markings shall be on two opposite faces of the bottom cap of the style B and style C packs. The markings format shall be as follows:

REUSABLE
FAST PACK - (proper pack code)
(proper size and cube)
(proper NSN)

Type II packs require the following markings, in characters not less than 1/4 inch high. The markings shall be placed within approximately the right one-third of the two narrow sides of the pack. The marking format shall be as follows:

REUSABLE - FAST PACK - (proper pack code)
(proper size and cube)
(proper NSN)

Each end of the slide on a style D box shall be marked with the words:

PUSH OPEN and ANTI STATIC

The words “ANTI STATIC” shall be placed 1/4 inch below the words “PUSH OPEN.”

The criteria listed above apply to depots that package or represerve and repack expendable items for shipment and/or storage.

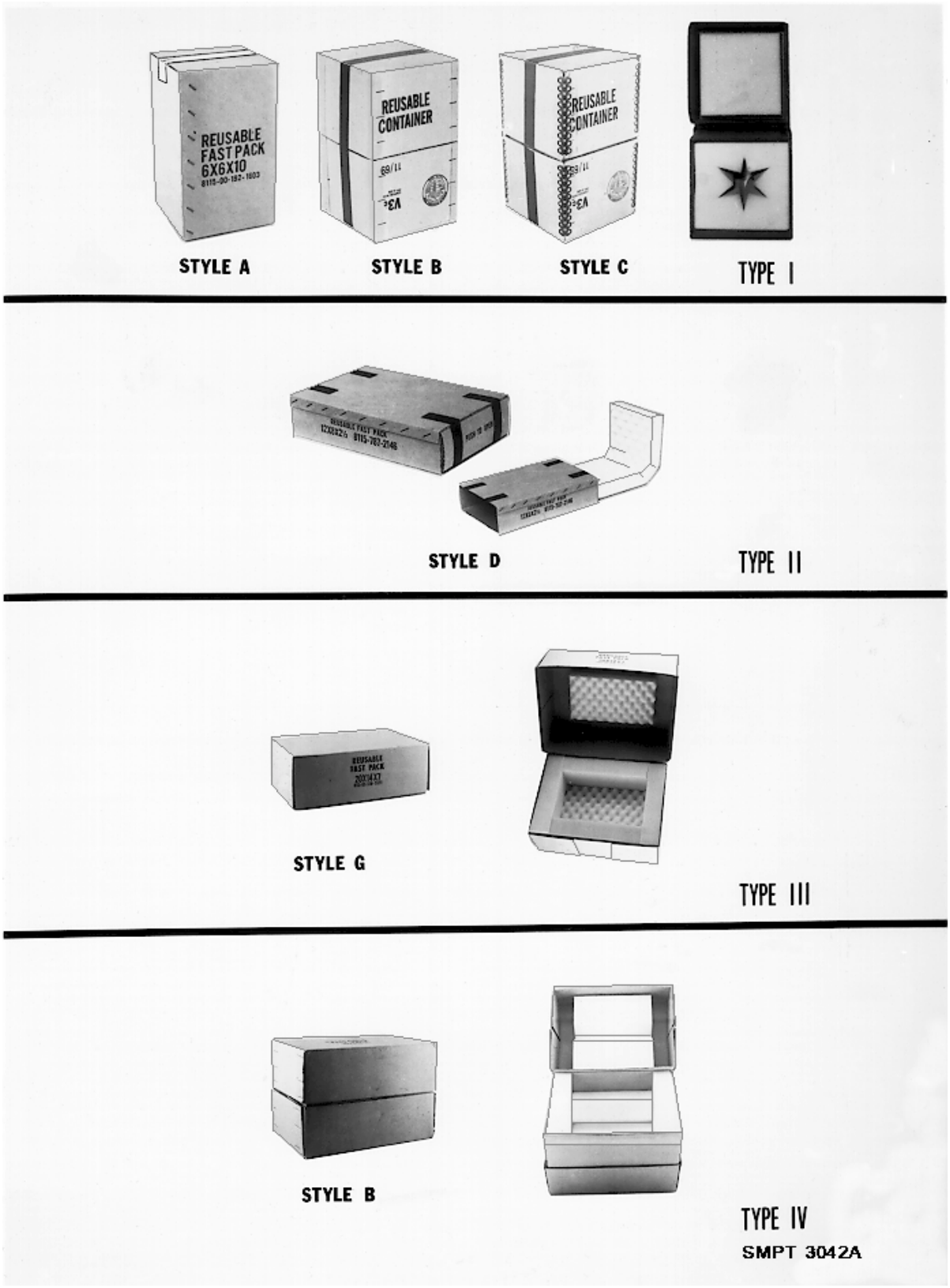


Figure 8-1. FAST PACK containers.

GUIDELINES

Contractors and depots are encouraged to use advanced packaging technology, and innovative methods or materials for the purpose of effecting packaging economies.

OPENING AND REUSE OF FAST PACKS

- X To open Fast Pack boxes, the closure and reinforcing tape(s) shall be cut with a shallow knife at a minimum number of seam locations which will permit opening and preclude any damage to the box. DO NOT remove totally adhered tape.
- X Surfaces to which the tape for closure or reinforcement is to be applied must be free of loose soil, oil and/or grease. These surfaces should be wiped clean prior to the application of tape.
- X Tape applied to reused containers should be applied directly over the existing tape.
- X Loose ends of existing tape should be cut off, not torn loose. Tearing the tape from the box damages the box surface and weakens the container walls.

CLOSURE AND MARKING REQUIREMENTS

Closure of Fast Packs shall be performed after the item(s) are placed inside and packed for shipment and storage. Marking for military shipment and storage shall be done in accordance with MIL-STD-129. Marking of packs for civil agencies shall be in accordance with FED-STD-123.

The tape used for reinforcement and sealing shall be of the specification, type, and size as specified for each type and style of box and according to the desired level of packing.

As a rule, no preprinted markings, except container certification marking, shall be obscured by taping or reinforcement. Any obscured or obliterated markings that were on the boxes need not be remarked, except for the pack code.

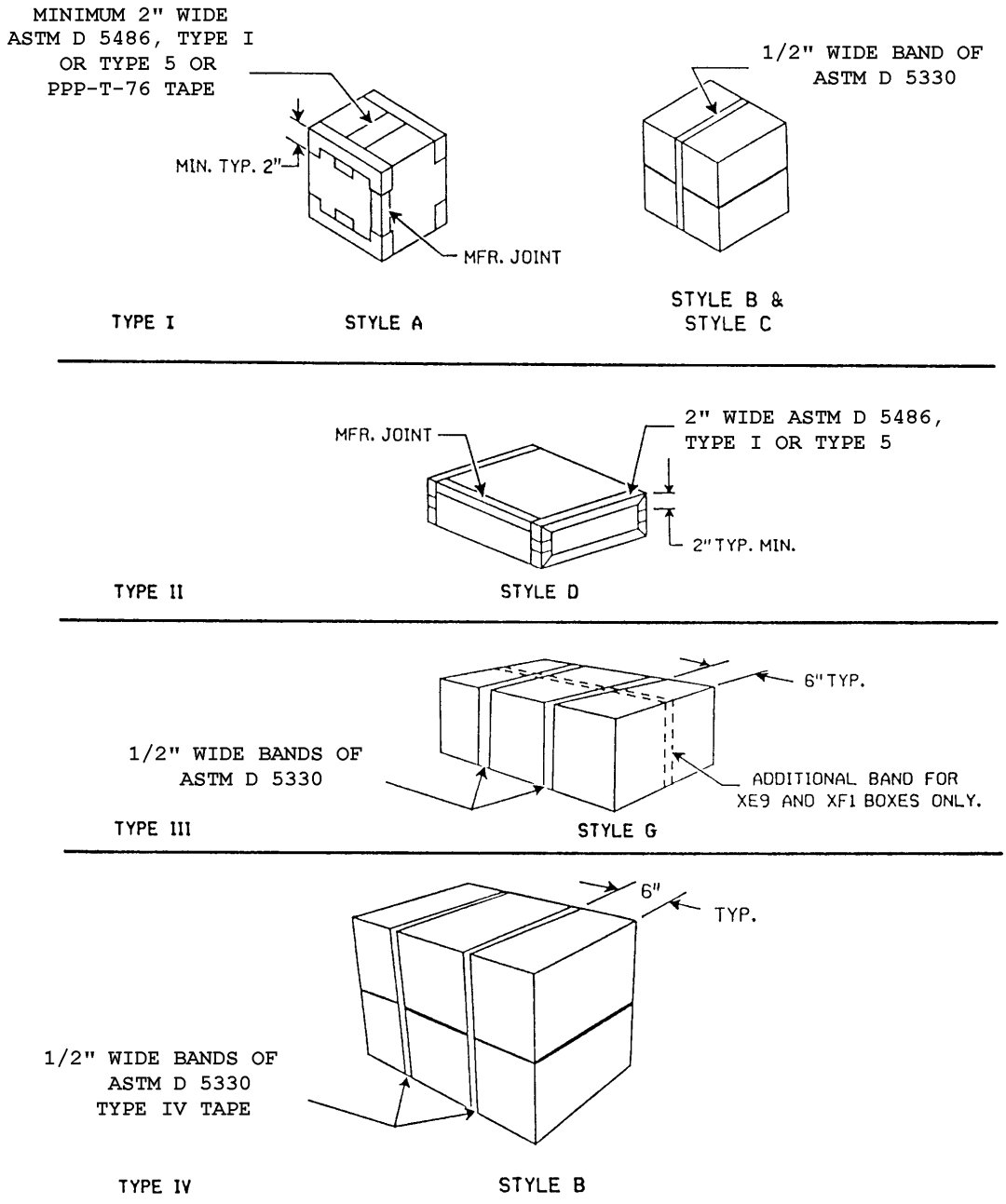
Recommended closure procedures for each type and style of FAST PACK boxes have been developed to assure reusability to the maximum extent. Figures 8-2 and 8-3 depict closure and reinforcement procedures for Level B and Level C Fast Packs, respectively.

LEVEL B PACKING

(Note) Level B packing is the highest level attainable in fiberboard containers, as compared with Level A in hard surfaced containers of wood, glass, metal, etc.

The following procedures are shown in figure 8-2, Level B Fast Pack closure and reinforcement.

Type I, style A packs shall be sealed with minimum 2-inch wide tape conforming to ASTM D 5486 (formerly PPP-T-60 and PPP-T-76) applied over all seams, corners, and manufacturer's joints. The tape shall be centered over the seams and joints and shall extend over all the corners and edges of the box a minimum of 2 inches onto the adjacent box panels. Tape shall be applied over the lengthwise seam of the outer flaps, sealing the opening of the box and over the manufacturer's joint prior to tape being applied to the edge seams of the box. The tape applied to the manufacturer's joint shall cover the joint but not extend over the corners of the box onto the adjacent panels. This method also serves as the closure.



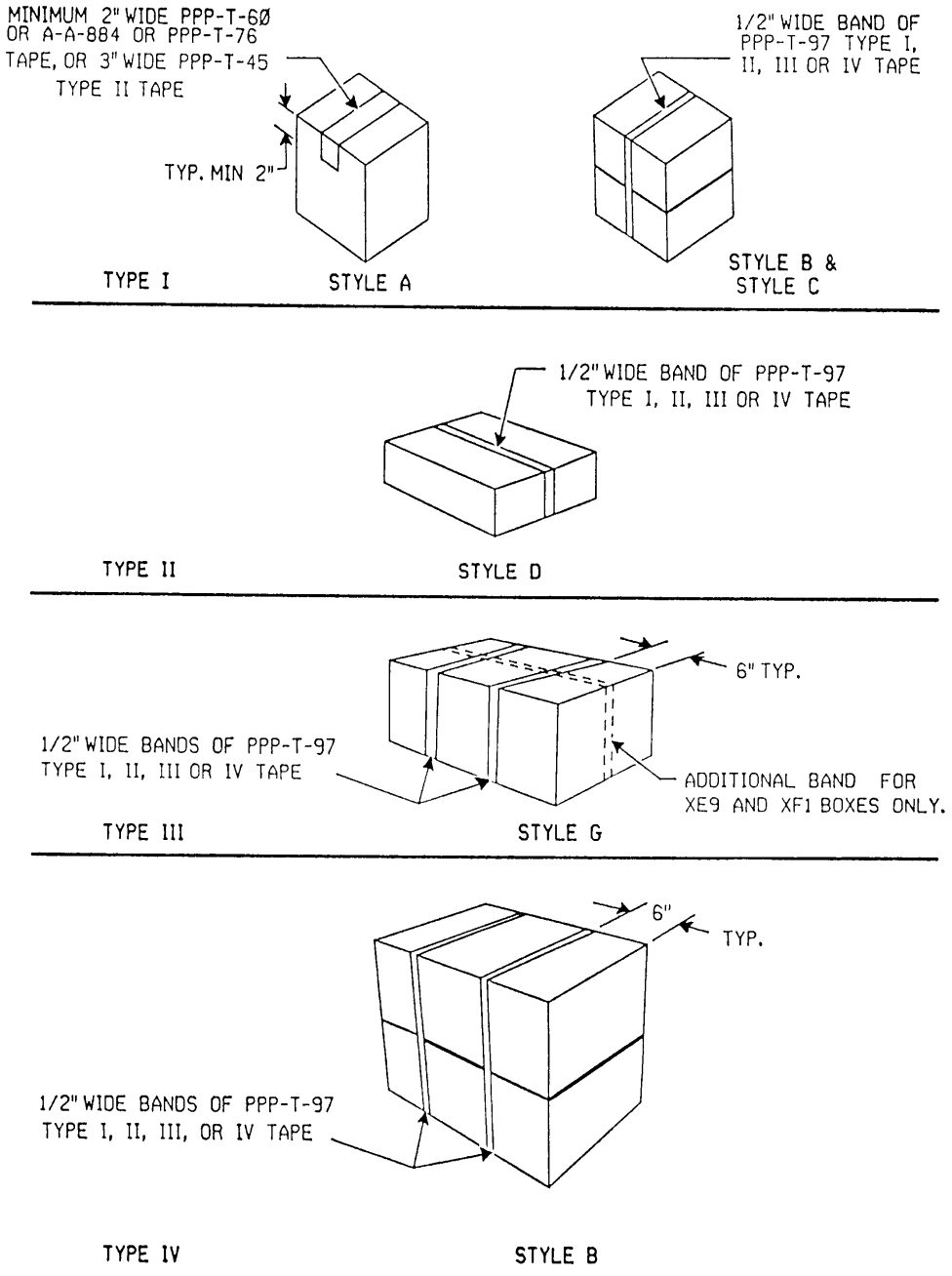
LEVEL B FAST PACK CLOSURE AND REINFORCEMENT

SMPT 3091A

Figure 8-2. Level B Fast Pack closure and reinforcement.

Type I, styles B and C packs shall be centrally reinforced with one fully encircling band of 2-inch wide tape conforming to ASTM D 5330 (formerly PPP-T-97), type IV. This method serves as closure. Sealing is not required.

Type II, style D packs shall be treated in the same manner specified for type I, style A containers, which is to seal all open seams and manufacturer's joint with 2-inch wide tape conforming to ASTM D 5486 (formerly PPP-T-60 and PPP-T-76), type III or IV. This method also serves as closure.



LEVEL C FAST PACK CLOSURE AND REINFORCEMENT

SMPT 3090

Figure 8-3. Level C Fast Pack closure and reinforcement.

Type III, style G shall be reinforced with fully encircling bands of 2-inch wide tape conforming to ASTM D 5330 (formerly PPP-T-97), type IV. Two bands shall be positioned six inches from the ends over the top, bottom, and sides. Add one lengthwise band over the top, bottom, and ends for XE9 and XF1 Fast Packs. This method serves as the closure. Sealing is not required.

Type IV, style B shall be reinforced as specified for type III, style G, except that the lengthwise band shall not apply. This method serves as the closure. Sealing is not required.

Level C Packing

(Note) Level C packing is no longer a valid concept according to MIL-STD-2073-1C but is mentioned here due to the present status of PPP-B-1672. Level C is a lower protection level than Level B. See Figure 8-3, "Level C Fast Pack closure and reinforcement."

Type I, style A packs shall be closed with a minimum 2-inch wide tape conforming to ASTM D 5486 (formerly PPP-T-60 and PPP-T-76), type III or IV. The tape shall be centered over the seam formed by the closure of the outer flaps of the top and shall extend down over the end panels not less than two (2) inches.

Type I, styles B and C shall be centrally reinforced with one fully encircling band of 2-inch wide tape conforming to ASTM D 5330 (formerly PPP-T-97) types I, II, III, or IV. This method serves as the closure. Sealing is not required.

Type II, style D shall be reinforced with one fully encircling band of 2-inch wide tape conforming to ASTM D 5330 (formerly PPP-T-97) types I, II, III, or IV. The band shall be placed lengthwise and centered over the top, bottom and ends (between the words "PUSH" and "OPEN"). This method serves as the closure. Sealing is not required.

Type III, style G shall be reinforced as specified for level B, type III, style G. This method serves as the closure. Sealing is not required.

Type IV, style B reinforcement shall be as specified for level B, type III, style G, except that the ASTM D 5330 tape used may be type I, II, III or IV and the lengthwise band shall not apply. This method serves as the closure. Sealing is not required.

SHORT LIFE CONTAINERS

Types I through IV. Construction details and materials requirements of the short life multiapplication containers shall conform to PPP-B-1672 (FAST PACK) for types I through IV. The container codes for types I through IV are contained in Table J.VII of MIL-STD-2073-1C. The container codes for types I through IV are NR, NS, NV, and NW, respectively. Table 8-1 presents the following information concerning Types I, II, III, and IV short life containers:

- X container size and National Stock Number (NSN).
- X recommended maximum bare item dimensions.
- X item weight range in pounds.
- X maximum shock (Gs) transmitted to the item.
- X packaged outside dimensions (inches)
- X packaged cube(cubic feet).

Type I consists of a polyurethane foam cushion insert with a diecut, star shaped, vertical cavity and top with bottom pads of the same material assembled in the container. This type is used for packaging fragile items, either rectangular or cylindrical in shape, such as meters, gauges, attitude and air speed indicators. Items packaged in this star pack type are inserted or loaded into the cavity from the top of the container prior to placing the top pad in place.

Type II consists of folded convoluted polyurethane foam cushion bonded to container board. Although the cushioning provides protection against shock, it essentially holds the item in place by precompression of the convoluted tips. This type is used for circuit boards and electronic modules. It is also used for packing glass envelope electronic tubes or other items whose depth does not exceed certain limits.

Type III consists of a telescoping container with bonded, convoluted (some end and side pads of which are flat sheet stock) polyurethane foam cushioning which forms an oblong cavity. This type is used to pack equipment such as receiver-transmitters, amplifiers, power supply units, and electronic indicators.

Type IV consists of a two piece (top and bottom) polyurethane foam-insert, which forms a star shaped cavity when the two pieces are mated in conjunction with end pads of flat sheet stock. The insert components and end pads are bonded in place within a half telescoping container conforming to ASTM D5118/ASTM D5118M, type CF, style DBLCC. The cushioning insert is similar to the type I star pack insert except that it is cut along (horizontal to) its greatest dimensional length to facilitate insertion (loading) and extraction of relatively long, rectangular or cylindrical items such as voltage regulators, electronic receivers, panels, transmitters, couplers and amplifiers.

When using these short life containers for items which do not completely fill the preformed cushion cavity, the item shall be immobilized by adding additional compatible cushioning material. Items whose dimensions slightly exceed the cushion can be carefully pressed into position.

TABLE 8-1. Multiapplication container selection.

PPP-B-1672, Type I, Vertical Star, (MIL-STD-2073-1C, Appendix C, CODE NR)

Container ID (inches) (National Stock Number)	Recommended max. bare item dimensions (in.)	Item weight range (lbs.)	*Maximum Shock (Gs) transmitted to item	Packaged outside dimensions (inches)	Packaged Cube (cu. ft)
6 x 6 x 10 (8115-00-192-1603)	3 Dia x 6 3 x 3 x 6	1.0 - 1.5 1.6 - 2.2 2.3 - 3.0 1.5 - 4.0	30 - 40 25 - 29 30 - 40 30 - 40	6. 3 x 6. 3 x 10. 5	. 242
8 x 8 x 12 (8115-00-192-1604)	3 x 3 x 8 4 Dia x 8 4 x 4 x 8 5 Dia x 8	1.5 - 4.0 3.0 - 7.5 7.6 - 8.5 3.0 - 5.0 5.1 - 7.0 3.5 - 5.5	30 - 40 25 - 29 30 - 40 25 - 29 30 - 40 30 - 40	8. 3 x 8. 3 x 12. 5	. 499
10 x 10 x 12 (8115-00-192-1604)	4 Dia x 6 5 Dia x 6 6 Dia x 6 5 x 5 x 6	2.0 - 3.0 3.1 - 4.5 4.6 - 5.0 3.0 - 6.0 4.5 - 7.0 4.0 - 9.0	30 - 40 25 - 29 30 - 40 30 - 40 30 - 40 30 - 40	10.5 x 10.5 x 12.5	.798
12 x 12 x 14 (8115-00-134-3655)	5 Dia x 8 6 Dia x 8 5 x 5 x 8 6 x 6 x 8	3.5 - 4.5 4.6 - 8.5 5.0 - 7.0 7.1 - 13.0 3.0 - 5.0 5.1 - 7.0 7.1 - 11.0 5.0 - 7.0 7.1 - 10.0 10.1 - 12.0	25 - 29 20 - 24 25 - 29 20 - 24 30 - 40 25 - 29 20 - 24 30 - 40 25 - 29 20 - 24	12.5 x 12.5 x 14.5	1.312
12 x 12 x 18 (8115-00-050-5237)	5 Dia x 10 6 Dia x 10 5 x 5 x 10 6 x 6 x 10	4.0 - 5.0 5.1 - 11.0 6.0 - 8.0 8.1 - 16.0 4.0 - 6.0 6.1 - 8.0 8.1 - 13.0 8.0 - 10.0 10.1 - 14.0 14.1 - 20.0	25 - 29 20 - 24 25 - 29 20 - 24 30 - 40 25 - 29 20 - 24 30 - 40 25 - 29 20 - 24	12.5 x 12.5 x 18.5	1.673
14 x 14 x 16 (8115-00-134-3656)	6 Dia x 10 7 Dia x 10 6 x 6 x 10 7 x 7 x 10	6.0 - 15.0 8.0 - 14.0 14.1 - 17.0 17.1 - 20.0 5.0 - 7.0 7.1 - 9.0 9.1 - 12.0 6.5 - 9.0 9.1 - 12.0 12.1 - 21.0 21.1 - 23.0	25 - 29 30 - 24 24 - 29 30 - 40 30 - 40 24 - 29 20 - 24 30 - 40 25 - 29 20 - 24 25 - 29	14.5 x 14.5 x 16.5	2.008

* Shock values in this Table were determined by instrumented free fall drop testing in accordance with Method 5007 of FED-STD-101.

TABLE 8-1. Multiapplication container selection. - continued

PPP-B-1672, Type II, folding convoluted (MIL-STD-2073-1C, Appendix C, CODE NS)

Container ID (inches) (National Stock Number)	Recommended max. bare item dimensions (in.)	Typical item weight range (lbs.)	Packaged outside dimensions (inches)	Packaged Cube (cu. ft)
6 x 5 x 2-1/2 (8115-00-787-2142)	5 x 4-1/2 x 1-1/4	0.5	6. 3 x 5. 3 x 3.0	.058
6 x 5 x 3-1/2 (8115-00-787-2147)	5 x 4-1/2 x 2-1/4	1.0	6. 3 x 5. 3 x 4.0	.078
9 x 6 x 2-1/2 (8115-00-101-7647)	8 x 5-1/2 x 1-1/4	0.9	9.3 x 6.3 x 3.0	.102
9 x 6 x 3-1/2 (8115-00-101-7638)	8 x 5-1/2 x 2-1/4	1.8	9.3 x 6.3 x 4.0	.136
10 x 10 x 3-1/2 (8115-01-057-1244)	9 x 9-1/2 x 2-1/4	1.8	10.5 x 10.5 x 4.0	.256
12 x 8 x 2-2/12 (8115-00-787-2146)	11 x 7-1/2 x 1-1/4	1.8	12.5 x 8.3 x 3.0	.181
12 x 8 x 3-2/12 (8115-00-787-2148)	11 x 7-1/2 x 2-1/4	3.6	12.5 x 8.3 x 4.0	.241
13 x 13 x 3-1/2 (8115-00-057-1243)	12 x 12-1/2 x 2-1/4	4.3	13.5 x 13.5 x 4.0	.422
16 x 16 x 3-1/2 (8115-01-057-1245)	15 x 15-1/2 x 2-1/4	8.6	16.5 x 16.5 x 4.0	.631
18 x 12 x 2-1/2 (8115-01-019-4085)	17 x 11-1/2 x 1-1/4	4.3	18.5 x 12.5 x 3.0	.402
18 x 12 x 3-1/2 (8115-01-019-4084)	17 x 11-1/2 x 2-1/4	8.6	18.5 x 12.5 x 4.0	.536
24 x 16 x 3-1/2 (8115-01-093-3730)	23 x 15 x 2-1/4	10.0	24.5 x 16.5 x 4.0	.936

Note: Because items assigned to these packs are not of extremely low fragility, dynamic cushioning values have not been determined.

TABLE 8-1. Multiapplication container selection. - continued

PPP-B-1672, Type III, telescoping encapsulated (MIL-STD-2073-1C Appendix C, CODE NV)

Container ID (inches) (National Stock Number)	Recommended max. bare item dimensions (in.)	Item weight range (lbs.)	Maximum Shock (Gs) transmitted to item	Packaged outside dimensions (inches)	Packaged Cube (cu. ft)
30 x 16 x 14 (8115-00-516-0242)	24 x 11 x 9	28 - 48 49 - 54	30 – 39 40 - 50	31.0 x 17.0 x 14.5	4.423
32 x 12 x 14 (8115-00-519-1825)	26 x 6 x 8	12 - 19 20 - 29 30 - 33	30 - 39 25 - 29 40 - 50	33.0 x 13.0 x 14.5	3.600
26 x 9 x 9 (8115-01-015-1313)	20 x 5 x 5	20(max)	50(max)	27.0 x 10.0 x 9.3	1.454
24 x 14 x 14 (8115-00-516-3558)	18 x 8 x 8	13 - 16 17 - 38	30 - 39 25 - 29	25.0 x 15.0 x 14.5	3.147
20 x 14 x 9 (8115-00-516-0251)	16 x 10 x 5	6 - 7 7 - 8	30 - 39 40 - 50	21.0 x 15.0 x 9.5	1.732
25 x 14 x 14 (8115-00-550-3574)	13 x 7 x 7	7 - 14 15 - 16 17 - 19	20 - 24 30 - 39 40 - 50	26.0 x 15.0 x 14.5	3.273
32 x 18 x 16 (8115-01-015-1315)	24 x 13 x 11	80 (max)	20 - 24	32.5 x 18.5 x 17.0	5.916
34 x 24 x 18 (8115-01-015-1314)	25 x 18 x 12	90 (max)	35 (max)	36.5 x 26.5 x 19.0	10.636
24 x 18 x 16 (8115-01-015-1312)	18 x 13 x 11	20 - 39 40 - 50	25 - 29 30 - 39	25.0 x 19.0 x 16.5	4.536
30 x 27 x 14 (8115-01-094-6520)	24 x 21 x 8	26 - 45 46 - 50	21 - 28 23 - 30	31.0 x 28.0 x 15.0	7.535

TABLE 8-1. Multiapplication container selection. - continued

PPP-B-1672, Type IV, horizontal star (MIL-STD-2073-1C, Appendix C, CODE NW)

Container ID (inches) (National Stock Number)	Recommended max. bare item dimensions (in.)	Item weight range (lbs.)	Maximum Shock (Gs) transmitted to item	Packaged outside dimensions (inches)	Packaged Cube (cu. ft)
20 x 14 x 14 (8115-00-010-8956)	14 x 5-1/8 x 5-3/8	6 - 14 15 - 18 19 - 21	25 - 29 30 - 39 40 - 50	20.5 x 14.5 x 14.5	2.495
	14 x 7 x 7	10 - 14 15 - 19 20 - 23 24 - 26 27 - 29	30 - 39 20 - 24 25 - 29 30 - 39 40 - 50		
22 x 16 x 16 (8115-01-006-7257)	16 x 6-3/8 x 6-3/8	8 - 20 21 - 27 28 - 31	25 - 29 30 - 39 40 - 50	22.5 x 16.5 x 16.5	3.545
	16 x 7-1/4 x 7-1/4	11 - 16 17 - 21 22 - 24 25 - 27 28 - 31	25 - 29 20 - 24 25 - 29 30 - 39 40 - 50		

CONTAINERS, PLASTIC REUSABLE SHIPPING AND STORAGE

LONG LIFE CONTAINERS

Long life containers, types VI through X are listed in table 8-2. All types shall be in accordance with the cognizant Government design activity requirements and construction of types VI through X shall conform to the following drawing numbers:

- X Type VI, Naval Inventory Control Point (NAVICP) drawing P069(code NY)
- X Type VII, NAVICP drawing 13414(code NZ)
- X Type VIII, NAVICP drawing 15024(code MY)
- X Type IX, Warner Robbins Air Logistics Center drawing numbers 11214-5002-100, 11214-5002-200, 11214-5002-300, or 11214-500-400 (code WY)
- X Type X, NAVICP drawing no. 15450 (code RC)

Table 8-2 presents the following information concerning types VI, VII, VIII, IX, and X long life containers:

- X container (size and NSN)
- X item Size
- X item weight range
- X packaged outside dimensions
- X packaged cube (cubic feet)

Type VI consists of two halves of polyethylene blow molded container with polyurethane cushioning and an electrostatic protective cushioned bag. This is used to ship circuit cards and similar type components. This container is shown in figure 8-4.

Type VII consists of a plastic type container with bonded, convoluted polyurethane foam cushioning which forms a cavity. This container is shown in figure 8-5.

Type VIII consists of plastic type container with a coiled steel cable shock mounted platform to which highly sensitive equipment is strapped. This container is shown in figure 8-6.

Type IX consists of two halves of a plastic container. A load platform suspended by elastomeric shock mounts is in one half. Strap tie-downs are used to hold items in place on the load platform. This type is made in four sizes and provides a 15G shock protection for shock sensitive avionics-type equipment in the 10 to 91 pound weight range.

Type X consists of two halves of a plastic container. A load platform suspended by elastomeric shock mounts is in the bottom half. Strap tie-downs are used to hold items in place on the load platform. Type X containers are made in seven sizes and provide 45 G shock protection for shock sensitive electronic-type equipment in the 3-75 pound weight range. This type container is primarily used to package depot level repairables. This container is shown in figure 8-7.

The multiapplication containers in types VI, VII, VIII, and X, were designed by the Navy Aviation Supply Office (ASO) for RIF (Reduction-in-Force) and retrograde shipment and storage repairables at the depot level anywhere in the world via any mode of transportation. They are now managed by the NAVICP.

These containers meet Air Transport Association (ATA) 300, Category I specifications and will withstand a minimum of 100 trips, thus providing life cycle, cost effective protection.

There are twenty nine (29) different sizes of plastic reusable containers with a total of more than 20,000 applications. Simplicity of item removal from the container makes these the easiest of all containers to use, thereby ensuring proper item protection and uniformity or standardization in packaging. Safety is improved at DoD field activities where knowledgeable packaging personnel are not always available.

A cushioning or suspension system is built into each container. These containers are the "state-of-the-art" in reparables management. A new series of containers has been developed for storage aboard ship. These containers are fabricated from flame resistant materials which are self extinguishing. Shock mounts that are incorporated provide a 45G shock protection.

The following illustrations are depictions of the hard modular containers which we have addressed:

- X **Figure 8-4. Container, Drawing No. P069 (Type VI, Code NY).** For circuit card assemblies and small, non-fragile modules.
- X **Figure 8-5. Container, Drawing No. 13414 (Type VII, Code NZ).** For major repairables. Protection to forty (40) G shock level.
- X **Figure 8-6. Container, Drawing No. 15024 (Type VIII, Code MY).** For gyroscopic instruments and other fragile/delicate repairables. Protection to fifteen (15) G's.
- X **Figure 8-7. Container, Drawing No. 15450 (Type X, Code RC).** For major repairables when major repairables are to be stored in non-flammable containers.

CLOSURE INFORMATION

- X P069 containers are banded with ASTM D 5330 tape with minimum one(1) inch overlap. Tape banding guides are molded into the container for easy placement.
- X Modular containers numbered 13414, 15024, and 15450 are closed with quarter-turn type fasteners which are permanently affixed to the containers.

Figure 8-4. Container, Drawing Number P069.

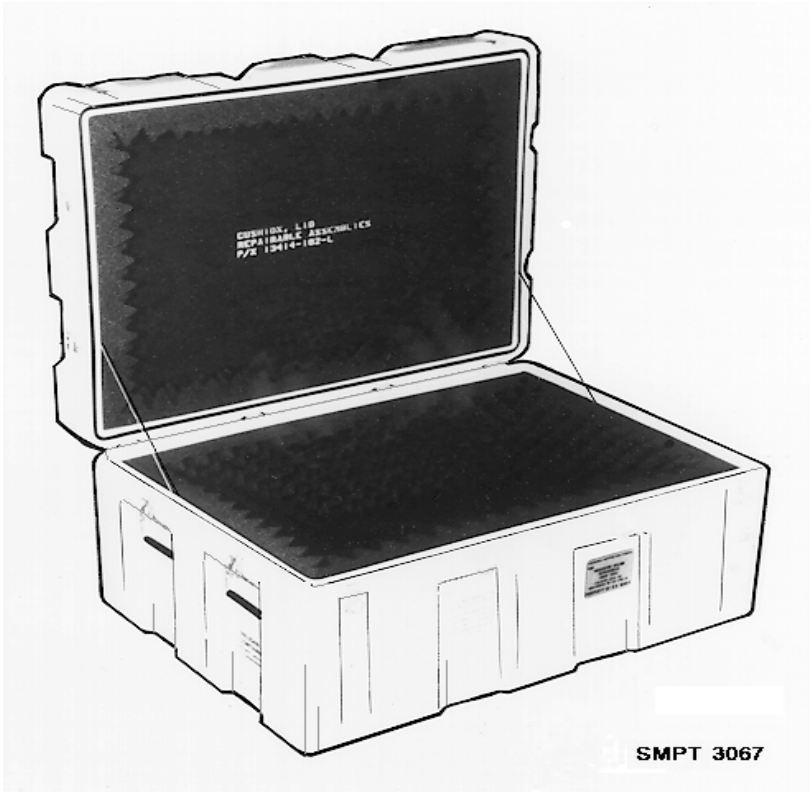


Figure 8-5. Container, Drawing Number 13414.

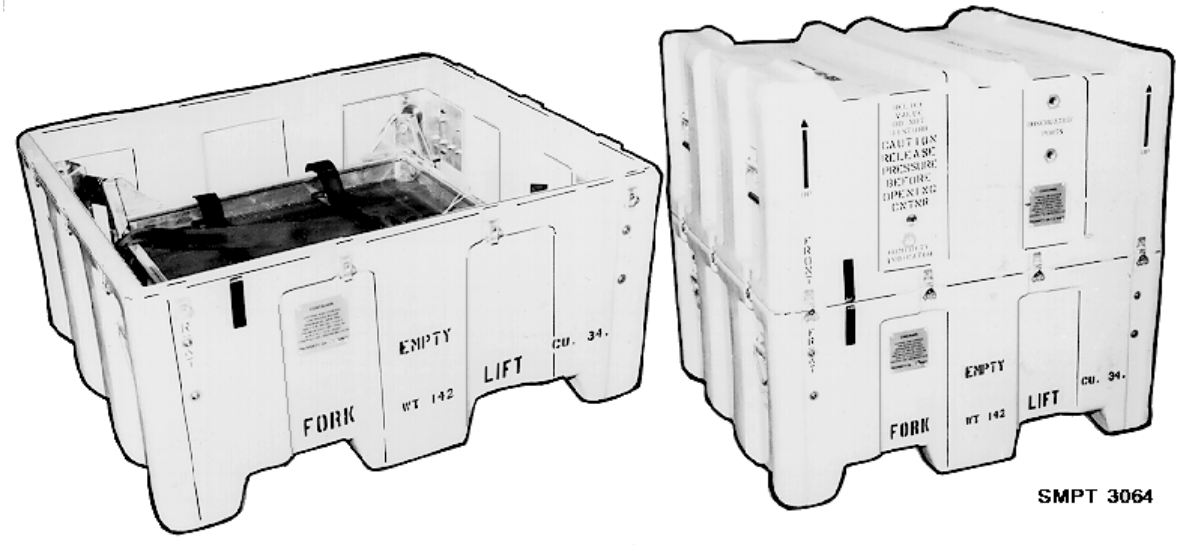


Figure 8-6. Container, Drawing Number 15024.

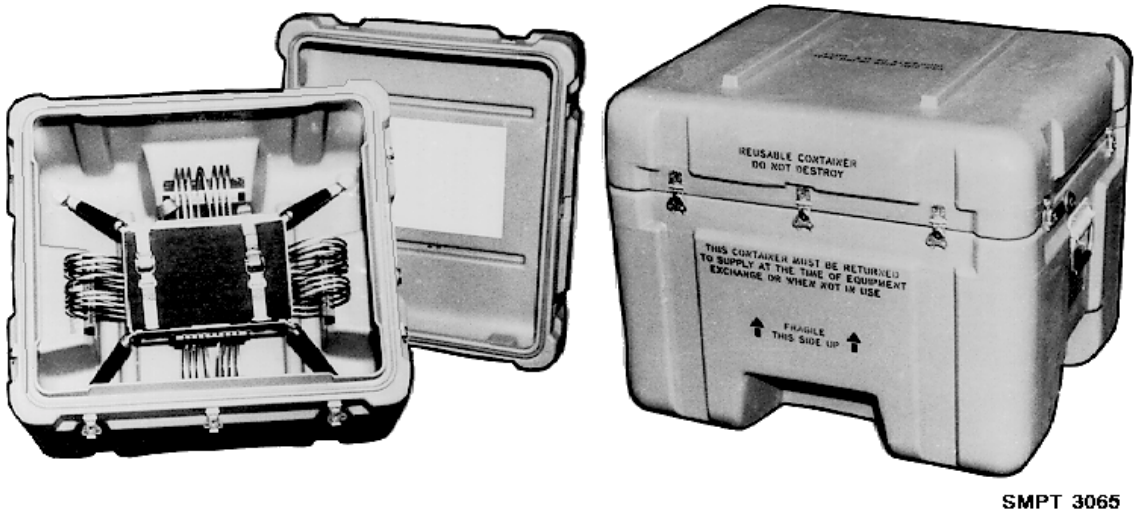


Figure 8-7. Container, Drawing Number 15450.

TABLE 8-2. Multiapplication container selection

PPP-B-1672, Type VI, Molded Reusable Container Assy for Circuit Cards and Modules: Naval Inventory Control Point (NAVICP) Drawing No. P069 (MIL-STD-2073-1C, Appendix C, Code NY)

Container ID (inches) (National Stock Number)	*Recommended max. load size (in.)	Item weight range (lbs.)	Maximum Shock (G's) transmitted to item	Packaged outside dimensions (inches)	Packaged Cube (cu. ft)
11.25 x 8.25 x 2.125 (8145-00-260-9556)	8.5 x 6.0 x 1.0	0 - 3	NOTE: Because items assigned to these packs are not of extremely low fragility, dynamic cushioning values have not been determined.	12.0 x 10.0 x 3.0	0.208
11.25 x 8.75 x 4.5 (8145-00-260-9548)	8.5 x 6.0 x 3.25	0 - 3		12.0 x 10.0 x 5.0	0.347
13.25 x 10.75 x 2.125 (8145-00-260-9559)	10.5 x 8.0 x 1.00	0 - 4		14.0 x 12.0 x 3.0	0.292
13.25 x10.75 x 4.5 (8145-00-260-9562)	10.5 x 8.0 x 3.25	0 - 4		14.0 x 12.0 x 5.0	0.486
6.75 x 5.0 x 2.0 (8145-01-014-0440)	5.0 x 3.0 x 1.0	0 - 2		8.0 x 6.0. x 3.0	0.083
19.75 x 13.75 x 4.5 (8145-01-012-4088)	17.0x11.0x2.62	0 - 4		21.0 x 15.0 x 5.0	0.911
24.0 x 12.0 x 6.0 (8145-01-164-4073)	240. x 11.0 x 3.0	0 - 4		27.0 x 14.5 x 7.0	1.586

* Includes wrap, barrier, bag, cushioned pouch and other packaging materials as required.

TABLE 8-2. Multiapplication container selection. - continued

PPP-B-1672, Type VII, Modular Reusable Containers for Packaging Major Repairables: NAVICP Drawing No. 13414 (MIL-STD-2073-1C, Appendix C, Code NZ)

Container ID (inches) (National Stock Number)	*Recommended max. bare item dimensions (in.)	Item weight range (lbs.)	Maximum Shock (Gs) transmitted to item	Packaged outside dimensions (inches)	Packaged Cube (cu. ft)
10 x 10 x 14 (8145-00-301-2987)	4 x 4 x 8	6.0	40 - 50	13.0 x 13.0 x 16.0	1.565
10 x 10 x 18 (8145-00-288-1396)	4 x 4 x 12	7.0	40 - 50	13.0 x 13.0 x 20.0	1.956
14.5 x 13 x 10 (8145-00-553-1539)	8.5 x 7 x 4	9.0	40 - 50	18.0 x 16.0 x 12.0	2.000
14 x 14 x 12 (8145-00-519-6384)	8 x 8 x 6	11.0	40 - 50	17.0 x 17.0 x 14.0	2.341
12 x 12 x 18 (8145-00-288-1397)	6 x 6 x 12	11.0	40 - 50	15.0 x 15.0 x 20.0	2.604
20 x 13 x 12 (8145-00-485-8256)	14 x 7 x 6	17.0	40 - 50	23.0 x 16.0 x 14.0	2.981
16 x 16 x 15 (8145-00-522-6907)	10 x 10 x 9	20.0	40 - 50	19.0 x 19.0 x 17.0	3.552
18 x 14.5 x 19 (8145-00-449-8424)	12 x 8.5 x 13	25.0	40 - 50	21.0 x 18.0 x 21.0	4.594
22.5 x 21 x 11.5 (8145-01-044-3289)	16.5 x 15 x 5.5	33.0	40 - 50	26.0 x 24.0 x 14.0	5.056
22 x 16 x 17 (8145-00-540-1762)	16 x 10 x 11	31.3	40 - 50	25.0 x 19.0 x 19.0	5.223
29 x 14.5 x 14 (8145-00-501-9138)	23 x 8.5 x 8	28.0	40 - 50	32.0 x 18.0 x 16.0	5.333
28 x 18 x 13 (8145-00-549-6647)	22 x 12 x 7	35.0	40 - 50	31.0 x 21.0 x 15.0	5.651
34 x 18 x 15 (8145-00-536-4925)	28 x 12 x 9	44	40 - 50	37.0 x 21.0 x 17.0	7.644
30 x 18 x 19 (8145-00-449-8427)	24 x 12 x 13	50	40 - 50	33.0 x 21.0 x 21.0	8.422
22.5 x 21 x 22.5 (8145-00-499-9808)	16.5 x 15 x 16.5	55	40 - 50	26.0 x 24.0 x 25.0	9.028
27 x 27 x 17 (8145-00-485-8250)	21 x 21 x 11	70	40 - 50	30.0 x 30.0 x 19.0	9.896
34 x 24 x 17 (8145-00-514-2798)	28 x 18 x 11	78	40 - 50	37.0 x 27.0 x 19.0	10.984
28 x 24.5 x 20.5 (8145-01-026-2369)	22 x 18.5 x 14.5	80	40 - 50	31.0 x 28.0 x 23.0	11.553
40 x 24 x 18 (8145-00-529-8585)	34 x 18 x 12	85	40 - 50	43.0 x 27.0 x 20.0	13.438
36 x 20 x 27 (8145-01-008-3683)	30 x 14 x 21	120	40 - 50	39.0 x 23.0 x 29.0	15.054
27 x 27 x 32 (8145-01-010-3776)	21 x 21 x 26	110	40 - 50	30.0 x 30.0 x 34.0	17.708

*Includes interior carton and associated blocking and bracing when applicable.

TABLE 8-2. Multiapplication container selection. - continued

PPP-B-1672, Type VIII, Shipping and Storage Containers For Gyroscopic Instruments: NAVICP Drawing No. 15024 (MIL-STD-2073-1C, Appendix C, CODE MY)

Shipping Container ID (in.) (National Stock No.)	*Max. load size without handling case (in.)	Handling case. OD (National Stock No.)	Item size using handling case	Item weight range (lbs.)	Max shock (Gs) transmitted to item	Packaged outside dimensions (in.)	Packaged cube (cu. ft.)
30 x 26.38 x 25.5 (8145-01-016-3451)	13 x 9 x 8	10.38 x 6.5 x 6.5 (8145-01-016-3453) 12.5 x 7.25 x 8 (8145-01-016-3454) 14 x 10.38 x 9.75 (8145-01-016-3455)	Max Length - 8.38 Max Width - 4.5 Depth Min - 1.69 Max - 3.75 Max Length - 10.5 Max Width - 5.25 Depth Min - 3.25 Max - 5.25 Max Length - 12 Max Width - 8.38 Depth Min - 5 Max - 7	0.5 - 10.5	15	3.04 x 26.8 x 25.6	12.070
35 x 27 x 30 (8145-01-016-3452)	17.5 x 12.25 x 13	18 x 12.25 x 11.75 (8145-01-016-3456) 19 x 14 x 14.25 (8145-01-016-3445)	Max Length – 16 Max Width – 10.25 Depth Min – 6.9 Max – 9 Max Length – 17 Max Width – 12 Depth Min - 9.5 Max - 11.5	8 - 40	15	35.4 x 29.0 x 30.4	18.061

*Includes wrap and cushioning as required to protect the barrier bag when applicable.

PPP-B-1672, Type IX, Shipping and Storage Containers for Avionics Instruments and Shock Sensitive Items: Warner Robbins Air Logistics Center Drawing Nos. 11214-5002-100, 11214-5002-200, 11214-5002-300, 11214-5002-400 (MIL-STD-2073-1C, Appendix C, Code WY)

Container 10 (inches) (National Stock No.)	Item Size Max/Min (inches)	Item Weight Range (lbs)	Maximum Shock (G's) Transmitted to Item	Packaged outside dimensions (inches)	Packaged cube (cu. ft.)
24.5 x 23.25 x 21.75 (8145-01-235-1113)	10.5 x 9.75 x 9.25/4 x 4 x 5	10 – 16.5	15	27.5 x 26 x 25	10.344
32.5 x 32.25 x x27 (8145-01-235-1112	21 x 21 x 15.75/8 x 6 x 5	12 - 25	15	35.25 x 35.25 x 30.25	21.752
32.5 x 32.25 x 27 (8145-01-236-5003)	21 x 21 x 15.75/12 x 6 x 6.75	25 – 54	15	35.25 x 32.25 x 30.25	21.752
38.5 x 44 x 36 (8145-01-235-1114)	25 x 32 x 20.8/15 x 8.75 x 7.75	40 – 91	15	41.13 x 37 x 39.13	34.461

PPP-B-1672, Type X, Modular Reusable Containers for Packaging Depot Level Repairables: NAVICP Drawing No. 15450 (MIL-STD-2073-1C, Appendix C, Code RC)

Container NSN	Item Size (inches)	Item Weight Range (lbs)	Packaged Outside Dimensions (inches)	Packaged Cube (cubic feet)
8145-01-262-2982	Min. 8 x 4 x 4 Max. 12 x 8 x 8	3 – 10	19.0 x 15.0 x 12.0	1.979
8145-01-262-2983	Min. 12 x 8 x 6 Max. 14 x 12 x 9	10 – 20	21.0 x 19.0 x 15.0	3.464
8145-01-262-2984	Min. 14 x 12 x 7 Max. 16.5 x 15 x 10	15 – 30	23.5 x 22.0 x 16.0	4.787
8145-01-262-2985	Min. 14 x 12 x 9 Max. 28 x 13 x 12	20 – 40	35.0 x 20.0 x 18.0	7.292
8145-01-262-2986	Min. 14 x 14 x 10 Max. 16.5 x 16.5 x 15	30 – 60	23.5 x 23.5 x 21.0	6.711
8145-01-262-2987	Min. 14 x 14 x 10 Max. 28 x x21 x 14.5	30 – 60	35.0 x 28.0 x 20.5	11.626
8145-01-262-2988	Min. 25 x 14 x 10 Max. 34 x 21 x 14	45 – 75	41.0 x 28.0 x 20.0	13.287